





THE  
War Against Tuberculosis  
IN SAN FRANCISCO

---

"It is within the power of man to cause all parasitic diseases to disappear from the world."—*Pasteur*



*Published by*  
**San Francisco Tuberculosis Association**  
SAN FRANCISCO, CALIFORNIA  
1928

“THE importance of the crusade against tuberculosis cannot be overestimated. Science has demonstrated that this disease can be stamped out, but the rapidity and completeness with which this can be accomplished depend upon the promptness with which the new doctrines about tuberculosis can be inculcated into the minds of the people and engrafted upon our customs, habits, and laws. The modern crusade against tuberculosis brings hope and bright prospects of recovery to hundreds and thousands of victims of the disease, who under old teachings were abandoned to despair.”—*Theodore Roosevelt.*

# San Francisco Tuberculosis Association

Organized June 25, 1908, as The San Francisco Association for the Study  
and Prevention of Tuberculosis.



## OFFICERS

JOHN S. DRUM, *President*  
GEORGE S. HOLLIS, *Vice-President*  
WILLIAM H. CROCKER, *Treasurer*  
DR. WILLIAM C. VOORSANGER, *Secretary*



## DIRECTORS AND EXECUTIVE COUNCIL MEMBERS

DR. MARIANA BERTOLA	ARCHBISHOP EDWARD J. HANNA
DR. PHILIP KING BROWN	FRANCK R. HAVENNER
DR. W. R. P. CLARK	MRS. I. W. HELLMAN
MRS. WILLIAM H. CROCKER	WILLIAM F. HIGBY
REV. C. S. S. DUTTON	DR. WILLIAM J. KERR
MRS. ALICE S. ELLINWOOD	DR. ALSON R. KILGORE
MRS. MILTON ESBERG	DR. WILLIAM P. LUCAS
DR. GEORGE H. EVANS	MRS. PARKER S. MADDUX
DR. HAROLD K. FABER	DR. SIDNEY J. SHIPMAN
ALEXANDER FLEISHER	MRS. JOSEPH SLOSS
WILL J. FRENCH	MRS. GEORGE B. SOMERS
DR. MORTON R. GIBBONS	

Office—20 SECOND STREET  
Telephone SUTTER 1534  
General Secretary, PAUL NEIMAN

## FOREWORD

FOR more than twenty years it has been the constant endeavor of the San Francisco Tuberculosis Association to bring to bear against tuberculosis every influence that works toward reduction of the disease.

Tuberculosis used to kill each year between 300 and 330 persons from every 100,000 living in San Francisco. Now it kills each year about 100 from every 100,000.

Despite this great reduction tuberculosis still kills in San Francisco more persons in early adult life than are killed by any other disease. It still causes more suffering, more poverty and more dependency than any other disease. United public effort for its control and prevention must be continued and increased. It is true economy to provide public funds for hospitalization of those who have tuberculosis and lack the means to provide for themselves, and for such other public health activities as will accelerate the decline of this terrible and costly disease and eventually wipe it out.

Many thousands of persons have helped the Association in its work. Newspapers, public officials, churches, clubs, labor unions, lodges and other groups and individuals have aided the Association in such number, and so frequently, that it is impossible here to record their names but grateful acknowledgment is made to all.

This booklet is published to review some of the things that have been done, to call attention to important changes that have taken place and to stimulate public interest in measures for further reduction of a preventable disease and the heavy economic loss that it causes.

# The Wide Extent and Great Cost of a Preventable Disease

**1** FEW persons realize how much tuberculosis there is in large cities. Few realize how much it costs a city. In San Francisco, as in nearly all cities, tuberculosis kills more persons in early adult life than any other disease. It is the greatest single cause of poverty and dependency.

In San Francisco, of every ten beds provided by the taxpayers for the sick poor at the municipal hospital, four beds are for victims of tuberculosis and six beds for the victims of all other ailments combined. The chart on this page shows how the days of free hospital care were divided in the fiscal year that ended June 30, 1928.

Averaged, 875 beds were occupied by patients every day

of the year. Of these, 336 were occupied by tuberculosis patients and 539 by all other patients.

Despite the large proportion of beds provided for tuberculosis patients there is almost continuously a waiting list, as there is for nearly all departments of the hospital because of the recent great growth of San Francisco. At times recently as many as 290 tuberculosis patients have been cared for in hospital space built for 250.

The long time that must pass before tuberculosis is cured, or before it kills, is one reason why such a large part of the free bed care provided at public expense is required for the victims of this one disease.

The foregoing figures have to do only with bed care inside hospital walls. Throughout the year more than 2000 persons with tuberculosis, or believed in danger of getting it, were under free medical and nursing supervision at clinics and in their

own homes. More than half were children less than 16 years old.

Tuberculosis, although a preventable and curable disease, and although it has been greatly reduced, still kills about 600 persons in San Francisco every year. This toll is taken principally from among persons between 20 and 50 years of age.

**2**

**3**

Days of free bed care provided for patients at San Francisco's municipal hospital in the twelve months ended June 30, 1928:

1. TUBERCULOSIS .....	122,748
2. General Medicine .....	60,129
3. Surgery .....	50,878
4. Isolation .....	20,162
5. Children's Department ....	17,686
6. Diseases of Women .....	13,421
7. Genito-Urinary .....	12,023
8. Maternity .....	6,885
9. Eye, Ear, Nose, Throat..	5,376
10. Venereal .....	5,333
11. Nervous and Mental .....	4,727
Total .....	319,368

**4**

**5**

**6**

**7**

**8**

**9**

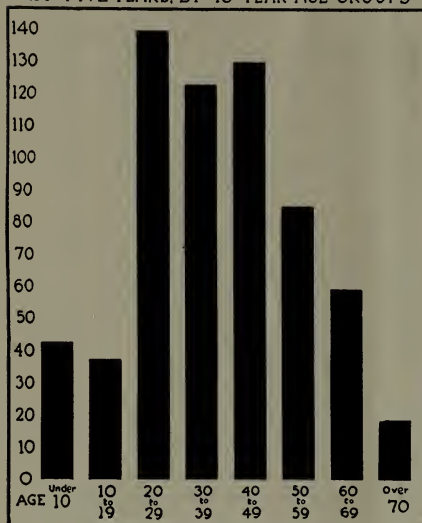
**10**

**11**



The chart illustrates the distribution of deaths by 10-year age groups. It is drawn from the average of the last five years. The variation in any one year from any of the group averages is not great, for tuberculosis is a remarkably steady and consistent killer.

AVERAGE NUMBER OF TUBERCULOSIS DEATHS PER YEAR IN SAN FRANCISCO FOR THE LAST FIVE YEARS, BY 10-YEAR AGE GROUPS-



Note on the chart that tuberculosis kills most of its victims in their twenties. Note that it kills not the aged, who have lived out man's allotted span of years, but those on the threshold and in the prime of life. Tuberculosis, like war, kills off the young men. It kills twice as many men as women in San Francisco.

A few other diseases kill a greater number of persons, but they kill principally among the aged. In San Francisco, diseases of the heart kill about twice as many persons as tuberculosis, but those killed by heart diseases are nearly all well along in years. Almost half are past 70 years of age.

Tuberculosis causes a vast amount of poverty and dependency not only because it kills great numbers of young men who leave children not yet old enough to be self-supporting, but also because it is a long-drawn-out disease, causing complete disability of the

wage-earners in many families for months and years at a time.

*"Approximately 33 per cent of all relief work is for families in which tuberculosis is the main if not the only cause of dependency. Forty-one per cent of the relief for widows given by the city is in families where tuberculosis caused the husband's death. Of the money spent for child welfare, in 42 per cent it was the death of the father from tuberculosis that caused the dependency of the children. About one-half of the entire cost of the relief work of the city's principal charity agency is due to needs, in families and among individuals, created by tuberculosis."*

The foregoing quotation relates to New York City. Comparable percentages for San Francisco are not available but would doubtless equal or exceed those of New York, for San Francisco's death rate from tuberculosis has always been much higher than New York's.

Medical authorities estimate that for each death yearly from tuberculosis in a community there are seven living persons with the disease in such condition that medical and nursing supervision and care are needed. If this estimate is correct, there are in San Francisco all the time more than 4,000 persons seriously sick with tuberculosis.

Medical authorities also estimate that tuberculosis lasts, on an average, five years. Ordinarily among the cases that end fatally death is preceded by a long period of complete disability. This is estimated by some authorities to average  $2\frac{1}{3}$  years, and by others 3 years. Complete cure, also, must generally be preceded by months and years of inactivity.

It is not so difficult to cure tuberculosis if the disease is discovered near the time of its beginning and sanatorium care is provided, or home care under competent medical and nursing supervision. Unfortunately the disease is too seldom discovered early,



and too often it is impossible to provide sanatorium care or to arrange home conditions suitable for cure.

Tuberculosis is unlike many dangerous communicable diseases. It does not suddenly make violent attack on a community and then subside into a long period of inactivity. It kills at a comparatively even rate all the time, year after year, month after month.

Persons do not generally realize the full extent of tuberculosis, the great loss it causes, and the need for large public expenditures to combat it, because it is not a sudden or spectacular killer. It does not flare up in outbreaks like bubonic plague, or smallpox, or typhoid, or influenza, that arouse public alarm and public demand for prompt defensive measures. And yet tuberculosis kills many more than are killed by these other four plagues combined.

In 1907 bubonic plague broke out in San Francisco. Private citizens, city, state and federal officials promptly combined to fight it. Laws to aid in control and prevention of the plague were passed. Public funds were appropriated liberally. By popular subscriptions \$152,000 was added to the appropriations. Within a few months, by an expenditure of \$585,000, the plague was checked.

In 1907 the plague killed only 89 persons in the whole United States, and it has never since killed more than 30 in any one year in the United States. A Census Bureau report says:

*"Those 89 deaths in 1907 probably occasioned greater alarm than would be felt if tuberculosis caused 10,000 more deaths than usual."*

As the result of that public alarm,

prompt and far-reaching action was taken. Thanks to the continued vigilance of federal, state and local health officials the plague has killed only a few more than 100 persons in the whole United States in the last 20 years. In the same 20 years tuberculosis, although gradually declining, has killed more than 2,000,000 persons, more than 100,000 per year.

Since 1908 only three persons have died of plague in San Francisco. Yet tuberculosis, "the white plague," which also to a large extent could be controlled and prevented, has killed more than 15,000 persons in San Francisco in that time.

That last outbreak of bubonic plague in San Francisco in 1907 and 1908 killed 77 persons. In the same years the white plague killed more than 800 persons each year, but no one was sufficiently alarmed to do anything about it except a small group of persons who were organizing "an association for the study and prevention of tuberculosis" and preparing to open San Francisco's first tuberculosis clinic for the sick poor.

When one considers, then, the large number of persons who have tuberculosis, the difficulty of early discovery, the long time required to overcome the disease once it has gained a strong foothold, as it usually has before it is discovered, and that its victims are principally persons in early adult life, it is easier to understand why tuberculosis is by far the most costly of all diseases to a community and why large expenditures of public money must be made to control and prevent it.

#### TUBERCULOSIS DEATHS IN SAN FRANCISCO DIVIDED INTO 10-YEAR AGE GROUPS

Ages	Under 10	10-19	20-29	30-39	40-49	50-59	60-69	Over 70	Total
1923.....	54	36	132	128	148	89	67	13	667
1924.....	38	37	148	126	151	84	51	26	661
1925.....	38	39	126	124	140	82	70	25	644
1926.....	39	44	145	126	103	86	51	17	611
1927.....	45	31	146	109	107	84	58	13	593
Annual									
Average.....	42	37	139	122	129	85	59	18	635

## History of the Early Efforts to Check Tuberculosis in San Francisco

FOR years prior to 1906 San Francisco had the highest tuberculosis death rate, by far, of America's ten largest cities, but no attempt was made to do anything about it. There was widespread and deeply rooted belief that "consumption" was a calamity about which nothing could be done, and that the less said about it the better.

Early in 1906 the first steps were taken toward control and prevention of the disease. A few physicians and other persons who believed something might be done toward reducing the loss of nearly 100 persons in early adult life every month, year after year, and who believed that public action should be taken toward ameliorating the hard lot of the many persons disabled and impoverished by the disease, laid plans to organize the San Francisco Association for the Study and Prevention of Tuberculosis.

They decided to start a campaign of "prevention through education," to open a free tuberculosis clinic for the sick poor, to send visiting nurses to those sick at home, and to urge public officials to make better provision for hospitalization of tuberculosis cases.

As a beginning, \$2,550 of municipal funds was provided to erect and equip tents with board floors in which to try the open air treatment on a score of the city's dependent tuberculosis cases. A newspaper account published early in April, 1906, said:

*"The first open air treatment for consumptives at a public institution west of Denver will begin shortly at the city and county hospital under the direction of Dr. George H. Evans. The first tent was erected yesterday and when the remaining nine are completed twenty patients will be accommodated. The work is in the nature*

*of an experiment, but great results are expected."*

This tent colony, on the grounds of the municipal hospital, was fenced with wire. The fence represented the first exercise of public authority in San Francisco for segregation of persons dangerously sick with tuberculosis from others that might catch the disease from them.

Up to that time no attempt to prevent the spread of the disease had been made, although it had been known for years that it is communicable. There was no law to require reporting of tuberculosis and no machinery for its control existed. Far advanced cases were mingled indiscriminately among patients brought to the hospital with other ailments. A dying consumptive might be sharing his quarters and his eating utensils with patients recovering from other respiratory diseases and thus passing on his disease to those with weakened resistance.

Possibly this state of affairs had something to do with the fact that up to 1906 San Francisco had by far the highest tuberculosis death rate of America's ten largest cities.

Plans for the campaign against tuberculosis were completed early in April, 1906. The evening of April 18 was selected for a public meeting at which officers would be chosen and the work formally started. The meeting was not held, for on April 18 came earthquake and fire.

In the days that followed, the organizers of the Association had many other tasks and responsibilities that postponed their planned activities against tuberculosis. Bubonic plague broke out in the fall of 1907 and many of them served on the Citizens' Health Committee that raised \$152,000 by private subscriptions and worked with public officials against that disease.

Early in 1908 plans for a campaign against tuberculosis were taken up again.

Organization began at a luncheon meeting over which Mrs. William H. Crocker presided. Other meetings were held at luncheons down town and on a number of evenings at the home of Mrs. John F. Merrill.

On June 25, 1908, organization of the Association was completed.

The first officers and directors, chosen at this meeting, were:

THOMAS E. HAYDEN, *President*  
DR. HERBERT C. MOFFITT, *First Vice-President*  
MRS. JOHN F. MERRILL, *Second Vice-President*  
DR. RENE BINE, *Treasurer*  
DR. WILLIAM C. VOORSANGER, *Secretary*

#### DIRECTORS

J. J. BAKWELL, JR.  
MRS. E. L. BALDWIN  
HENRY U. BRANDENSTEIN  
GUSTAVE BRENNER  
DR. RENE BINE  
DR. CHARLES M. COOPER  
MRS. WILLIAM H. CROCKER  
MRS. S. W. DENNIS  
DR. GEORGE H. EVANS  
MISS KATHERINE FELTON  
THOMAS E. HAYDEN  
DR. A. W. HEWLETT  
WALTER MACARTHUR  
MISS LAURA MCKINSTRY  
MRS. JOHN F. MERRILL  
DR. HERBERT C. MOFFITT  
CHARLES C. MOORE  
MRS. S. S. PALMER  
MRS. HENRY PAYOT  
OSGOOD PUTNAM  
A. W. SCOTT, JR.  
DR. HARRY M. SHERMAN  
MRS. M. C. SLOSS  
DR. WILLIAM C. VOORSANGER

Thomas E. Hayden served as president of the Association from its organization until January, 1912. He was succeeded by Jesse W. Lilienthal, who continued as president until his death in June, 1919. Since October, 1919, John S. Drum has been the Association's president. Dr. William C. Voorsanger has been the Association's secretary ever since its organization.

The Association was incorporated in 1911. In 1920 its name was shortened, for convenience, from "The San Francisco Association for the Study and Prevention of Tuberculosis" to "San Francisco Tuberculosis Association."

The Association launched its educational campaign with this declaration to a skeptical world: "*Tuberculosis is a preventable and usually a curable disease.*"

It announced that it purposed "*to teach all who will learn, how not to get the disease, how not to give the disease and how to get well of it.*"

To this end a free clinic was opened, visiting nurses were sent from house to house, lectures were given, sermons were preached, handbills were circulated, advertisements were posted in street cars, articles were published in newspapers, exhibits of good and bad housing as related to disease were displayed and every means at the command of the Association was used to create an informed public opinion. Ever since its beginning it has been the aim of the Association to bring to bear against tuberculosis every possible influence that may aid toward its final conquest.

Aside from its general educational activities the Association undertook to bring about state and county legislation that would give boards of health the legal power and necessary financial appropriations to provide better care for the indigent sick and to take measures for control and prevention of the disease.

In its first year the Association, through its committee on legislation, of which Walter Macarthur was chairman, succeeded in getting such legislation through the Senate and Assembly, but it was vetoed by the Governor. In 1909 the Association was successful in having adopted in San Francisco an ordinance in which tuberculosis was officially declared "a communicable disease dangerous to the public health" and the local board of health was empowered to take certain steps to prevent the spread of infection.

From its beginning the Association was active in support of building laws that would insure proper space for sunlight and fresh air in the reconstruction of the city. A remarkable decrease in San Francisco's death rate from tuberculosis followed the purging of the city by fire. Many sunless



and ill-ventilated old habitations were burned. In the rush of reconstruction many dwellings were erected that would not be permitted under the building laws of today, but in general the new buildings were far superior from a health standpoint to those that they replaced. A tenement house ordinance that was passed in June, 1907, principally through the efforts of the Telegraph Hill Neighborhood Association, was in a large measure responsible for this.

To local efforts for better housing, and for inspection of milk, meat and other foodstuffs, all of which have a bearing on the prevention and control of tuberculosis, the Association gave its support. Meanwhile it continued its efforts to have similar action taken by the state. The annual report of the Association for 1911 says:

*"In February, March and April of 1911 several trips were made to Sacramento by President Thomas Hayden, Dr. William C. Voorsanger, Dr. R. G. Brodrick and Chairman Macarthur of the legislative committee in the interest of Assembly Bill 821, authorizing the state board of health to make a special investigation into the prevalence of tuberculosis, and of Senate Bill 292, requiring the registration of all cases of tuberculosis, which bills were introduced into the last legislature by this Association."*

The work of the Association's committee on legislation eventually led to the shaping of state policies by which many excellent county tuberculosis hospitals have been established in California and maintained at high standard under state supervision and with the aid of a state subsidy.

The state board of health, under authority given by one of the bills sponsored by the Association in 1911, appointed a tuberculosis commission of five and an advisory committee of fifty to investigate the prevalence of tuberculosis in California and to recommend ways and means for its control and prevention.

Dr. George H. Kress, Los Angeles, was chairman of the commission. Dr. R. G. Brodrick and Miss Katherine C. Felton were San Francisco members of the commission. Sixteen other San Franciscans served on the advisory committee. They were:

REV. CHARLES F. AKED  
J. J. BAKEWELL, JR.  
CHARLES H. BENTLEY  
DR. PHILIP KING BROWN  
REV. D. O. CROWLEY  
MISS MARGARET B. CURRY  
FREDERICK W. DOHRMANN  
DR. GEORGE H. EVANS  
MISS ALICE GRIFFITH  
MRS. M. W. KINCAID  
WALTER MACARTHUR  
RABBI MARTIN A. MEYER  
JOHN I. NOLAN  
DR. WILLIAM OPHULS  
DR. WILLIAM C. VOORSANGER  
FREDERICK S. WITHINGTON

A thorough study of the tuberculosis situation in California was made and a report submitted to the legislature. As a result a state bureau of tuberculosis was created to cope with the disease, legislation enabling counties to combine for the purpose of erecting tuberculosis hospitals was enacted, state subsidy was provided for county tuberculosis hospitals that could comply with certain specified standards of care and treatment, and much other legislative action calculated to control and prevent the disease followed in the next few years.

The recommendations of the state tuberculosis commission of 1911 included many things besides free bed care in hospitals and country sanatoria for persons with tuberculosis unable to provide hospital care for themselves, and free dispensary care for those not in need of hospitalization. The commission also recommended governmental inspection of milk, meat and foodstuffs; stricter housing laws; inspection of tenements, factories and lodging houses; regulated hours of labor; public playgrounds and recreation centers; medical inspection of all school children and the teaching of health as a regular part of school work.

Great advances along all these lines have been made since that time and all, no doubt, have played a part in

the reduction of the tuberculosis death rate that has taken place.

Throughout its earlier years financial support for the Association was principally supplied by a comparatively few persons. The continuous employment of field nurses and maintenance of clinics was made possible only by large gifts from Mrs. William H. Crocker. San Francisco business firms provided without charge much of the material for constructing and equipping the building on Jackson Street that for many years housed the association's offices and free clinics.

Donations that the Association received were supplemented by the sale of Christmas seals. Mrs. John F. Merrill, one of the organizers of the Association, and also Mrs. Henry Payot, were principally responsible through their management of the sale for developing it into the Association's principal source of funds. Mrs. William Haas was another who not only took an active part in the Association's work, but also made large contributions for its financial support.

The annual sale of penny seals at Christmas time now supplies the major part of the Association's funds. The seal sale is one of the Association's most effective ways of stimulat-

ing public interest in the tuberculosis problem. It has also proved to be each year directly responsible for the discovery by the Association of additional cases of tuberculosis, not previously known to physicians or field nurses.

In earlier years the seals were sold upon the streets and at public gatherings by volunteer solicitors. Later the custom of offering the seals by mail was adopted and the sale now is almost entirely by mail.

The funds of the Association are carefully used under direction of an executive council. Until 1928 it met twice each month. It now meets once a month. The books of the Association are audited each year.

The Association maintains an office at 20 Second Street that is open every day except Sunday. Books, magazines, pamphlets, posters, lantern slides and motion picture films having to do with tuberculosis, and other health topics, are kept on hand. Some of this material is given away and any of it may be borrowed. Information about tuberculosis, about the work of the Association, and the ways in which its funds are spent will be freely given to anyone.



ASSOCIATION HEADQUARTERS 1909-1921

## Some of the Things That Have Been Done To Control and Prevent Disease

THE first tuberculosis clinic was opened by the Association in January, 1909. The Telegraph Hill Neighborhood Association provided clinic rooms. Dr. William C. Voor-sanger, Dr. W. R. P. Clark and Dr. James L. Whitney did the medical examining. A few months later the Association completed a building at 1547 Jackson Street for its headquarters. Here the major part of the clinic work was carried on until July, 1921, when it was taken under municipal administration.

More than 24,000 men, women and children have been enrolled as new patients in the twenty years the tuberculosis clinics have been in operation. In the first six years from 350 to 450 new patients were enrolled each year. In the last six years from 1500 to 2000 new patients have been enrolled annually.

When the Association established its first free clinic twenty years ago it met open hostility. Citizens demanded that the clinic be closed by the Board of Supervisors, threats were made to close it by injunction, protests even were made against display of the word "tuberculosis" at the clinic entrance. In time the purpose of the clinic, and the value of its work, became better understood and public feeling about it changed.

The number of visits to the clinic made by patients in the first year was about 1600. Attendance has grown until about 6800 visits are now made to the clinics by patients each year for examination and advice.

The accompanying chart shows how clinic attendance has increased. A greater increase in recent years would be shown were it not for the fact that the Association has maintained for the last three years two special clinics at Stanford and University of California hospitals in San

Francisco for a study of tuberculosis in children. Many children have attended these clinics who would otherwise have attended the older clinics for persons of all ages. Attendance at these two special clinics is not included in the totals from which the chart was drawn.

In addition to the work done in clinics the Association has provided tuberculosis examinations for many thousands more in places where men and women work, in public and private schools and in clubs and community centers. In the last year physicians provided by the Association have examined more than 12,000 persons in such places.

A field nursing force to seek out new cases and supervise the home care of tuberculosis patients for whom hospital provision could not be made was built up by the Association as rapidly as its finances permitted. Efforts to convince the city that tuberculosis is a municipal problem were continued. The president of the Association stated in 1911:

*"Much of the work we are doing now ought to be done by the city. One purpose of organizing this society was to lay the foundation for work to go on under city administration."*

In 1916 three nurses were supplied through municipal funds to carry on tuberculosis field work in connection with the five nurses paid by the Association. The city was divided into eight districts and a nurse assigned to each.

The annual report of the municipal Board of Health for 1917 says:

*"For the first time in its history, the city of San Francisco took upon itself the responsibility of grappling with the problem of handling the tuberculosis situation, the board of supervisors in the budget of 1916-17*



having set aside \$5,000 for the establishment of a bureau of tuberculosis."

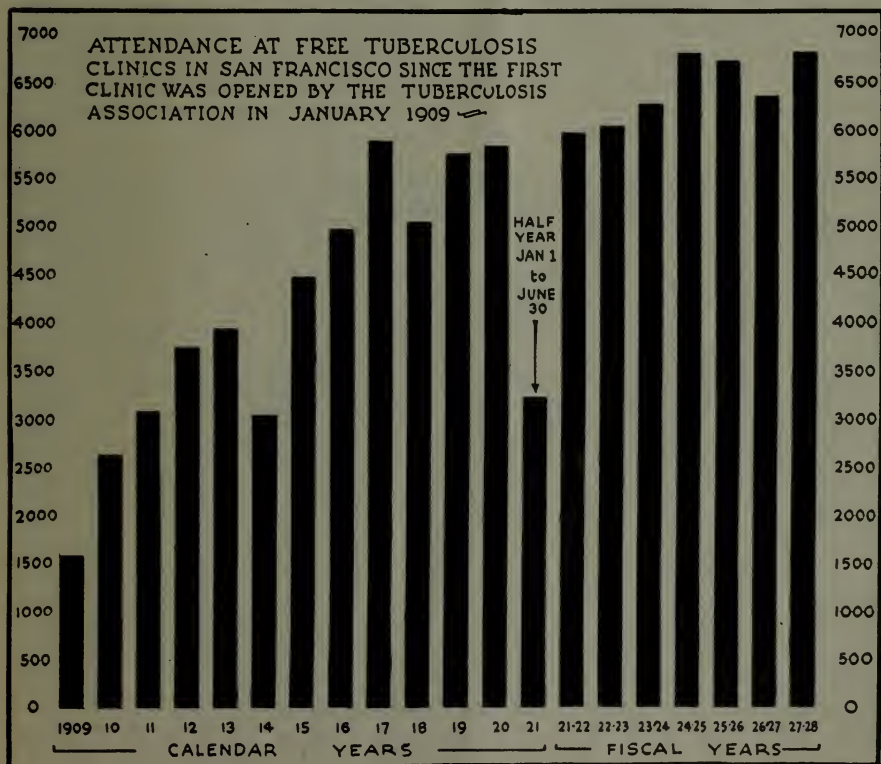
On July 1, 1921, appropriations for the municipal bureau of tuberculosis were increased so it could take over the clinic and field nursing work. The Association still supplements this work in various ways. At present the municipal bureau of tuberculosis provides ten visiting nurses and the Tuberculosis Association four. The Association also helps the field nurses keep in touch with patients discharged from the hospital by supplying a part-time clerical assistant.

It is not the Association's true function to carry on medical and nursing work that properly should be done by the municipal department of public health, except temporarily such work as cannot be undertaken by the department for lack of funds. The Association's medical and nursing enterprises are arranged to supplement those of the department and are car-

ried on under municipal direction and control. Duplication of effort and expense is avoided.

Health work among school children began in a small way in San Francisco in 1908 when the board of supervisors gave the health department funds to start one medical inspector and four nurses. From time to time the school inspection staff has been increased. It is not yet of sufficient size to meet adequately the needs of a city in whose public and private schools and kindergartens approximately 100,000 children assemble each school day.

In February, 1916, the Association joined with the board of education in establishing an open-air school to provide for children in poor physical condition the close supervision and special care necessary to restore them to vigorous health without interrupting their attendance at school. The board of education provided housing



accommodations and teachers. The Association provided medical and nursing care, meals, cots, blankets and similar equipment.

A second open-air school was opened in May, 1919. Two years later appropriations for the municipal bureau of tuberculosis were sufficiently enlarged to permit it to undertake, with the board of education, complete supervision and support of open-air schools.

In 1921 the Association helped the municipal departments of health and education establish health teaching and health supervision classes in San Francisco's elementary public schools. As a beginning, 44,500 children in 93 schools were weighed, measured and given preliminary physical examinations.

With the co-operation of parents and family physicians, and through free treatments at clinics for those from families financially unable to provide their own medical care, hundreds of children have been freed from physical handicaps that tend to undermine health and retard progress in school.

Arrangements were made to teach healthful habits of living in all the schools and to provide inexpensive and nutritious luncheons at cost. Health supervision classes were formed for the benefit of children in need of special attention and instruction to bring them to robust health without interruption of school attendance.

The Association provided a number of teachers, doctors and nurses to help carry this additional work through the experimental period. From time to time the regular employes of the departments of health and education took over parts of this work and by July, 1925, all of it.

Meanwhile the health department and the directing heads of San Francisco's parochial educational system started similar health work in the parochial schools, which the Association is aiding them to extend.

The value of school health work is

not so much in the discovery of students with active tuberculosis as in the discovery of physical impairments and weaknesses of various kinds that, if permitted to continue, lay a child open to successful attack by tuberculosis in the critical years of early adult life. Tuberculosis kills in San Francisco fewer persons between the ages of 10 and 20 than it kills in any other 10-year age group. But from those in their twenties it takes its heaviest toll, and particularly in the early twenties.

The Association believes that annual medical inspection of all school children, and particularly of those in the high schools and part-time schools, combined with corrective work, will serve to arm with natural resistance sufficient to carry them safely through adult life, many boys and girls who would otherwise be overcome by tuberculosis in their twenties.

It has therefore supplemented the limited resources of the school medical inspection service by supplying doctors and nurses, who work under the direction of the city health officer as members of his school staff. Doctors employed by the Association examined more than 10,000 high school and junior high school students last year. Assistance from the State Bureau of Tuberculosis and the California Tuberculosis Association made it possible to increase the effectiveness of inspection by use of an x-ray laboratory mounted on a motor truck. X-ray examinations were made of the chests of more than 3,000 students.

Search for a quick cure for tuberculosis goes on continuously in hospitals and laboratories throughout the world, still unsuccessfully. Development of the x-ray as an aid to early discovery of tuberculosis, and improvements in chest surgery as a means of arresting the disease in certain cases, are advances in medical science, but there is not yet any quick cure, any sure cure, any cheap cure for tuberculosis. Rest, good food, sunshine, fresh air, a carefully ordered method of life, and patience are re-

quired to win back health, once it is lost.

The Association has helped to a small extent, when money was available for the purpose, in the search for a cure that will be quicker, surer and less expensive than the long course of sanatorium treatment now required.

In 1921 it helped finance at the University of California hospital research work by which it was then believed a cure for tuberculosis might be developed from chaulmoogra oil. Careful and thorough experiments proved that this belief was incorrect.

At present certain studies with tuberculin are being carried on in the research department of the University of California hospital. Toward the expense of this work the Association contributed \$500.

Next to prevention, which is always better and cheaper than cure, early discovery is the most important objective of the campaign against tuberculosis. Medical authorities say that tuberculosis lasts, on an average, five years. The nearer to the time of beginning that the disease is discovered the less difficult it is to check it. It is known that most persons are first

infected with tuberculosis in childhood.

To study this childhood infection, to determine the frequency with which it occurs in San Francisco among children of various ages, and to develop more exact methods of discovering and controlling the infection, two free clinics for children from infancy to fifteen years of age have been maintained by the Association at University of California and Stanford hospitals for the last three years.

Approximately 4,000 children have been enrolled at these clinics. Many were found with tuberculosis and sent to hospitals. Others suspected of having the disease, or believed likely to get it because of poor physical condition, have been re-examined from time to time and provided with home nursing supervision. Many have been sent to convalescent homes and similar institutions.

More than 3,000 x-ray pictures have been taken. From these, and from carefully recorded observations of physicians and nurses employed by the Association, much has been learned to make possible the earlier discovery and more effective treatment of tuberculosis in children.



SCHOOL MEDICAL INSPECTION WITH STETHOSCOPE AND X-RAY



## More and Better Hospital Care Provided for Victims of the White Plague

TO obtain adequate public care for those with tuberculosis unable to provide for themselves has always been one of the aims of the Association. Progress in this was particularly difficult in early days. The number in need of hospitalization was so great that public officials contended no municipality could raise sufficient money to meet the problem. Public knowledge of and interest in health work had not been developed. Municipal appropriations for public health protection were small.

In San Francisco, public officials, harassed by financial difficulties and pressing needs in reconstruction of the city after the disaster of 1906, paid scant attention to the plight of the tuberculous. Their attitude was reflected in quotations from health department reports of that time:

*"There seems to be no means of lessening the number of those suffering from this dread disease. It seems as though the federal government should care for this class of patients as their disease is lasting and communicable and no municipality should be expected to bear the expense."*

The same reports contain the information that *"an anti-tuberculosis league is trying to combat the inroads of this dread disease."*

The City and County Hospital, a dilapidated frame structure 35 years old, escaped the great fire of 1906, but at the finish of the campaign against bubonic plague, whose victims it had sheltered, it was torn down and the wreckage was burned. Patients had been moved to a temporary hospital in an old building at the county poor farm in January of 1908.

Two months later that building was destroyed by fire. Arrangements were made to scatter the sick poor among private hospitals, the government hospital at the Presidio and barns at the Ingleside race track. The

Associated Charities fitted up one of the barns for a tuberculosis hospital. The municipal appropriation for maintenance amounted to 74 cents per patient per day. Appropriations of other cities at that time were double that amount.



TUBERCULOSIS HOSPITAL 1908-1911

The board of health, calling attention in its annual report for 1908 to the need for better quarters for the sick, had this to say of the hospital:

*"Although everything was done to put the buildings, which formerly were used as stables for race horses, in a habitable condition, naturally the result is not all that could be desired. All the buildings are old and the roofs more or less leaky, which will cause much annoyance in the approaching rainy season. Some of the buildings are open to such an extent that it will be practically impossible to heat them; others again do not provide for sufficient ventilation."*

Many entries similar to the following appear in the old minute books of the Tuberculosis Association:

*"Mrs. Henry Payot, Mr. Jesse W. Lilienthal and Dr. R. G. Brodrick were appointed to appear before the board of supervisors and request that the appropriation for maintenance of tuberculosis patients be increased."*

*"Dr. A. H. Giannini and Dr. William C. Voorsanger were directed to go to Sacramento and urge upon the legislature passage of a bill providing for a state subsidy to county tuberculosis hospitals."*

From time to time municipal appropriations for maintenance of tuberculosis patients were increased. San Francisco now spends more than \$3.00 per patient per day. Part of this is provided by state subsidy, which began in July, 1916. The annual report of the health department at that time says:

*"Commencing July 1, 1916, the State subsidized 85 beds in the tuberculosis hospital at the rate of \$3 per week per patient, in consideration of the hospital's complying with certain housing and food regulations. By reason of the improvements made, the number of subsidized beds was increased from 85 to 100, effective March 1, 1917. The total subsidy for the year amounted to \$13,368."*

Since the beginning of state subsidy a total of approximately \$300,000 has been received from this source for maintenance of patients in San Francisco's tuberculosis hospital.

In May, 1911, the Association launched a public protest against the miserable conditions under which tuberculosis patients were compelled to exist in the horse barn hospital. Other agencies joined with it. In July the Association committee directing the campaign reported:

*"After considerable work a municipal appropriation of \$30,000 has been authorized for construction of a lean-to tuberculosis department on San Francisco hospital grounds at Vermont and Twenty-second Streets, same to be completed in 60 days."*

Seven temporary wooden structures were erected to provide for 150 patients. They were first occupied in the fall of 1911 and continued to serve as the city's tuberculosis hospital until July, 1919. The present hospital was then completed and opened for patients. Although built to house 250 patients, it has provided beds for as many as 290 adults at one time. In April, 1927, an addition that houses sixty children was completed. In September, 1927, the Health Farm, a hospital in the country near Redwood City for early cases of tuberculosis, was opened. It houses 40 patients.

Construction of the Health Farm hospital was preceded by a long search for the most suitable site in the country near San Francisco. The Health Farm, a partly wooded tract of a little more than 300 acres, is situated on a sunny slope about 25 miles from San Francisco at an elevation of 600 feet. It overlooks the southern arm of San Francisco Bay and is sheltered by a range of hills that holds back the cold wind and fog from the Pacific Ocean. The Health Farm has about 100 more days of sunshine in a year than are enjoyed by San Francisco.

Here exist ideal conditions for restoration to health and economic usefulness of many young persons in San Francisco with tuberculosis in its early stages. Lacking suitable care, such cases drift along into the advanced stages of the disease and in the end impose a greater economic burden on



TUBERCULOSIS HOSPITAL 1911-1919

the community than if sufficient funds were provided to give them promptly institutional care at the time when there is the best opportunity to check their disease.

To establish the Health Farm it was necessary to amend the charter of the City and County of San Francisco. The amendment was submitted to the voters in the fall of 1922. It received 88,000 favorable votes and carried by a ratio of 4½ votes to 1, the greatest vote of approval given to any of the 53 measures that were on the ballot at that election.

It is now planned to double the bed capacity of the Health Farm, bringing it from 40 to 80 beds, as well as to enlarge the main tuberculosis hospital in San Francisco, with funds from a bond issue for health purposes that is to be submitted to the voters in November, 1928. If this plan is approved by the voters, it will make possible the restoration to health of many sufferers from tuberculosis for whom it is not now possible to provide proper care.

A vast improvement in tuberculosis hospitals has taken place throughout California since united efforts to control and prevent the disease were started and public interest in the tuberculosis problem was aroused. The situation that existed until a few years ago is pictured by this quotation from the state tuberculosis commission's final report to the legislature, published in 1914:

*"It is doubtful if the county hospitals, with a few exceptions, are at this time properly conducted as regards the treatment of tuberculosis. Most of them simply provide a place for advanced cases to die. Some of the counties have wards and separate buildings, specially designed for the treatment of tuberculosis, but in the majority of these places there are absolutely no facilities either for treating the patients or for protecting those suffering from other diseases. County sanatoria and hospitals where residents sick with tuberculosis might really have a fair opportunity for restoration of health and usefulness are still in the incipient stage."*

Of San Francisco's municipal tuberculosis hospital the report to the legislature said:

*"In this hospital now most of the patients received are in an advanced stage, and it is too late to do very much for them except to provide simple comforts until such time as they shall die."*

Happily these conditions have been greatly changed. Since 1919 San Francisco has had a municipal tuberculosis hospital not excelled by that of any city. Lack of sufficient bed space, however, still hampers the efforts of health officials to control the disease. First consideration necessarily must be given to those most desperately sick. They, of course, are the cases least likely to be cured, but for humane reasons they must be given



TUBERCULOSIS HOSPITAL SINCE 1919



hospital care first of all. As a result many whose disease is less advanced, and might be quickly checked by prompt hospitalization, must remain on the waiting list with such care as can be given there in clinics and by field nurses.

The need for more beds also makes it necessary at times to discharge convalescents from the hospital, before they are really strong enough to go, in order to provide places for emergency cases that must have immediate hospital care. As a result many such discharged convalescents again break down with the disease and again become dependent upon the community.

It is believed that the additional beds contemplated by the proposed bond issue for health purposes will remedy this situation and stop the great economic loss caused by the repeated return for hospitalization of persons who under present conditions are required to leave the hospital before their disease is completely arrested.

In the last twenty years throughout the United States hospitals for the tuberculous have greatly increased in number and size, and great improvements have been made in the type of care provided within the hospitals.

In 1908 there were in California 10 institutions for care of the tuberculous and they provided a total of 465 beds. Now, in 1928, there are more than 50 institutions in California for tuberculosis cases and they provide more than 5500 beds.

In 1904 when the first directory of tuberculosis hospitals in the United States was published there were about 100 institutions for care of the tuberculous and they provided fewer than 8000 beds. In 1928 the number of institutions for the tuberculous in the United States had increased to more than 600 and the number of beds to more than 72,000.

As more and better hospital care has been provided for persons with tuberculosis there has been a marked decrease in the number of deaths from the disease.



THE BEGINNING OF THE HEALTH FARM

# *Tuberculosis Death Rate Now Reduced To Lowest Point on Record*

IT is probable that no city ever experienced a quicker reduction in its tuberculosis death rate than the drop in San Francisco's rate immediately after the great fire of 1906. The fire carried on a four-day campaign against tuberculosis that was effective, but it cost more than \$500,000,000. Breeding places of the disease were wiped out by the thousand. Outdoor life was suddenly forced upon thousands of persons who customarily slept with locked windows and believed that night air was poisonous.

The accompanying chart illustrates the number of deaths from tuberculosis in San Francisco each year since 1900. Note the great drop in the number of deaths that immediately followed the fire of April, 1906. This reduction was only in part caused by the fact that many persons moved from the city temporarily after the fire. The city quickly recovered its former number of inhabitants, and more, but tuberculosis never regained the ground it had lost. For instance, in the census year 1910 San Francisco had about 75,000 more people than when the census of 1900 was taken, but about 250 fewer deaths from tuberculosis.

For years before the great fire tuberculosis killed with monotonous regularity about 100 persons every month. Its annual toll was close to 1200 persons. It has never since killed more than 960 in any one year. In 1927 it killed 593. This is the lowest annual mark on record.

In comparing the total for 1927 with the number killed each year before the great fire it should be borne in mind also that the city is now twice as large as it was then.

The population of San Francisco, as estimated by the Bureau of the Census, the number of deaths from tuberculosis and the death rate per

100,000 of population for each year since 1900 follow:

Year	Population	Deaths	Rate
1900	342,782	1132	330
1901	350,913	1161	330
1902	358,420	1142	318
1903	365,927	1208	330
1904	373,434	1151	308
1905	380,941	1175	308
1906	388,448	813	209
1907	395,955	818	206
1908	403,462	856	212
1909	410,969	837	203
1910	418,838	886	211
1911	428,084	809	189
1912	437,330	860	196
1913	446,576	884	198
1914	455,822	959	210
1915	465,068	962	206
1916	474,314	897	189
1917	483,560	854	176
1918	492,806	943	191
1919	502,052	922	183
1920	511,298	682	133
1921	520,544	648	124
1922	529,790	648	122
1923	539,036	680	126
1924	548,282	659	120
1925	557,518	644	115
1926	566,774	611	107
1927	576,020	593	102

It is contended by many persons that the census estimates of population for recent years are far less than the actual population of San Francisco. If that is true the reduction in the death rate in recent years has been even greater than shown by the figures in this table. For instance, if the rate is computed from the chamber of commerce estimate of population instead of the census estimate, San Francisco's tuberculosis death rate in 1927 was 80 per 100,000 of population instead of 102.

Whether the fire of 1906 was entirely responsible for the great reduction in tuberculosis in San Francisco that immediately followed cannot be said with certainty. The fact should not be overlooked that in 1906, as noted elsewhere in this booklet, the open-air treatment of the tuberculous at the county hospital and their segregation to prevent the spread of infec-

tion among other patients first began.

At about this time also impetus was given to various activities calculated to lessen disease, such as the opening of free clinics, the employment of field nurses, medical inspection of school children, municipal inspection and regulation of milk and meat supplies and a widespread campaign of public education about health. An international congress on tuberculosis was held in Washington, D. C., in 1908, and this did much to increase public interest in the war against disease.

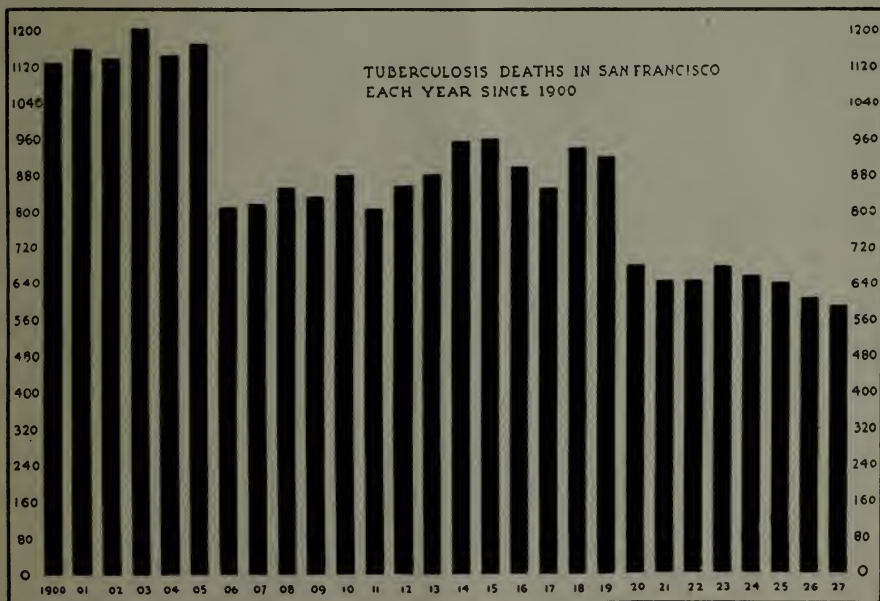
Another important influence was the rapid increase in the number of public and private hospitals for the treatment of persons with tuberculosis.

Another great decrease in the tuberculosis death rate took place about 1920 throughout the United States as well as in San Francisco. Some persons say the epidemic of influenza that swept the country in 1918 and 1919 was principally responsible for this drop, believing that influenza killed many persons in 1918 and 1919 who would otherwise have died of tuberculosis within the next few years.

Others attribute the great decrease in the tuberculosis death rate that has taken place in the last eight years to the unusual prosperity of those years. Greater numbers of people get better wages, live in better homes and have better food. There are fewer desperately poor people. Hours of labor are less than they used to be. People have more time for rest and recreation. Cheap transportation makes it possible for more people to get out into the sunshine and fresh air, and to get out often. The number of persons that take part in outdoor sports has tremendously increased.

Various influences, some exerted by natural laws and other directed by man, have contributed to the long-continued decline of tuberculosis. There is no way to measure separately how much each of many influences has accomplished.

In California in the last twenty years many changes for the better have come about through legislation that has improved conditions under which the great mass of people work and live. All this has a bearing on the reduction of tuberculosis.



The improvement that has taken place with respect to tuberculosis in San Francisco is characteristic of the change that has taken place throughout the United States, although there has been a far greater decline in the death rate of San Francisco than in the death rate of the United States as a whole.

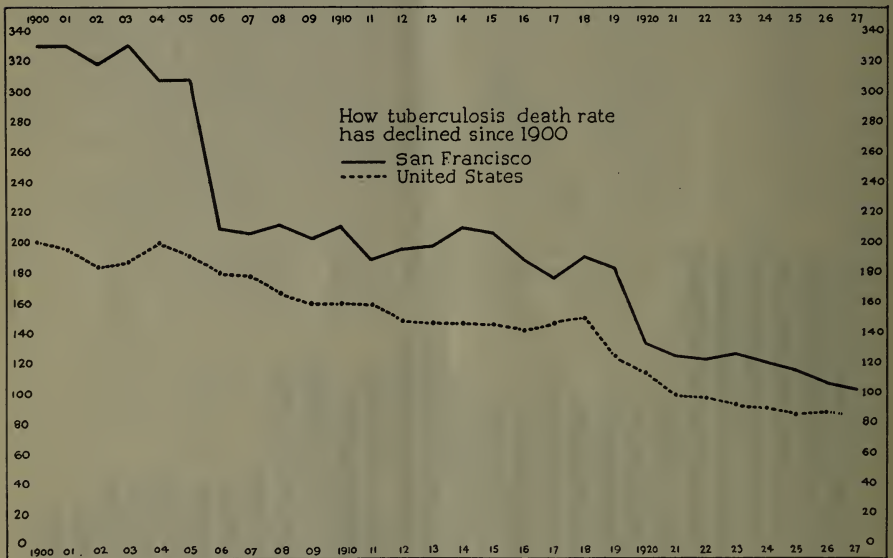
The chart on this page shows how the rate has declined in San Francisco and how it has declined in the whole United States since 1900. The chart is based upon statistics published by the United States Bureau of the Census. For the United States as a whole there was a slight increase in 1926 over 1925. There was a reduction again in 1927, but the exact figure for the year has not yet been published by the census bureau.

The decline in San Francisco from

1905 to 1906 was probably not in fact so extreme as indicated by the chart, for in calculating rates the census bureau made no allowance for the temporary decrease in San Francisco's population immediately following the earthquake and fire of 1906.

It is interesting to note how much greater San Francisco's rate was than the rate for the United States as a whole from 1900 to 1905 and how the rate for San Francisco is now little above that of the rate for the whole United States.

As explained previously in this booklet many persons believe the census bureau greatly underestimates San Francisco's population. If local estimates of population are correct, San Francisco's tuberculosis death rate is now less than the rate for the United States as a whole.





“PUBLIC health is purchasable. Within natural limitations a community can determine its own death rate.”—*Biggs*.

“THREE-FOURTHS of the deaths from tuberculosis would be avoided if knowledge now existing among well-informed men were applied to a reasonable extent.” — *From the report of the National Conservation Commission.*







